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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,335	06/30/2003	Haru Ando	500.42880X00	8770
86636 7590 09/15/2009 BRUNDIDGE & STANGER, P.C. 1700 DIAGONAL ROAD, SUITE 330 ALEXANDRIA, VA 22314				
EXAMINER				
FRISBY, KESHA				
ART UNIT		PAPER NUMBER		
3715				
MAIL DATE		DELIVERY MODE		
09/15/2009		PAPER		

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/608,335  
Filing Date: June 30, 2003  
Appellant(s): ANDO ET AL.

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Donna K. Mason  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 6/8/2009 appealing from the Office action mailed 2/2/2009.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,585,521	Obrador	1-2003
6,402,520	Freer	6-2002
5,944,530	Ho et al.	8-1999

JP 09-149894	Atsushi	10-1997
6,315,569	Zaltman	11-2001
2002/0150869	Shpiro	10-2002

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 3, 7, 9-14, 16 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obrador (U.S. Patent Number 6,585,521) in view of Freer (U.S. Patent Number 6,402,520), Ho et al. (U.S. Patent Number 5,944,530), Atsushi (Publication Number 09-149894: English Computer Translation from the Patent of Abstracts of Japan) and Zaltman (U.S. Patent Number 6,315,569).**

Referring to claim 1, Obrador discloses a learning condition judging program embodied on a computer readable medium, the program executable in an information processing apparatus, wherein the program is operable on the information processing apparatus to perform the steps of: starting a program (column 4 lines 61-64) in said information processing apparatus (computer 140), wherein the information processing apparatus is connected through an information acquiring means to a near infrared measuring device (column 3 lines 48-55), and is connected to a recording means (column 4 lines 52-61),

an input means (column 4 lines 64-67) and a display means (display device 210); acquiring input information and operation information given by said user to said information processing apparatus through said input means (column 4 line 64-column 5 line 1); acquiring audio or video information of said user of said information processing apparatus so as to obtain attention information of said user through at least one of a microphone and a camera connected to said information processing apparatus (column 3 lines 44-48 & column 4 lines 1-8); judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information (column 3 lines 44-48).

*Obrador does not disclose starting a learning program and displaying learning contents, wherein the input information and the operation information indicate progress of said learning program; continuously acquiring, as said learning program progresses, measurement information of a blood flow rate in a brain of a user of said information processing apparatus, said measurement information being obtained from said near infrared measuring device through said information acquiring means; analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time and recording said degree of concentration of the user and said attention information of the user with said progress of said learning program in said recording means and recording, when said degree of concentration of said user to said learning program is higher than*

*said predetermined degree, said degree of concentration of the user and said attention information of the user said progress of said learning program in said recording means and displaying, when said degree of concentration of said user to said learning program is not higher than said predetermined degree, information that the user is not in concentration time.* However, Freer teaches starting a learning program (Figs. 16-29B & the associated text: starting a low-stimuli educational exercise) displaying learning contents within a predetermined window on said display means (abstract: low-stimuli education exercises are displayed on a computer monitor) and recording, when said degree of concentration of said user to said learning program is higher than said predetermined degree (column 13 lines 1-8) and displaying, when said degree of concentration of said user to said learning program is not higher than said predetermined degree, information that the user is not in concentration time (column 16 lines 28-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include starting a learning program and displaying the learning contents, as disclosed by Freer, incorporated into Obrador in order to increase the user's focus. *Obrador/Freer does not teach wherein the input information and the operation information indicate progress of said learning program; continuously acquiring, as said learning program progresses, measurement information of a blood flow rate in a brain of a user of said information processing apparatus, said measurement information being obtained from said near infrared measuring device through said information acquiring means; and analyzing a rate of change in hemoglobin concentration from said blood flow rate and judging, whether or not a*

*degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time and recording said degree of concentration of the user and said attention information of the user with said progress of said learning program in said recording means.* However, Ho et al. teaches wherein the input information and the operation information indicate progress of said learning program (column 7 lines 23-26 & column 12 lines 17-30) and recording said degree of concentration of the user and said attention information of the user with said progress of said learning program in said recording means (Figs. 2A, 2B, the associated text, column 8 line 40 – column 11 line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein the input information and the operation information indicate progress of said learning program, as disclosed by Ho et al., incorporated into Obrador/Freer in order to determine the student's understanding level on the materials just presented to the student. *Obrador/Freer/Ho et al. does not teach continuously acquiring, as said learning program progresses, measurement information of a blood flow rate in a brain of a user of said information processing apparatus, said measurement information being obtained from said near infrared measuring device through said information acquiring means; and analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in*

*concentration time.* However, Atsushi teaches continuously acquiring, as said learning program progresses, measurement information of a blood flow rate in a brain of a user of said information processing apparatus, said measurement information being obtained from said near infrared measuring device through said information acquiring means (abstract & Drawings 1-3, 6 & the associated text) and analyzing a rate of change in hemoglobin concentration from said blood flow rate (for example, paragraph 0006). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include continuously acquiring, measurement information of a blood flow rate in a brain of a user, as disclosed in Atsushi, incorporated into Obrador/Freer/Ho et al. in order to measure localized brain functions. *Obrador/Freer/Ho et al./Atsushi does not teach judging, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time.* However, Zaltman teaches judging, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time (column 11 lines 41-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include judging when an event occurs within the predetermined window, as disclosed by Zaltman, incorporated into Obrador/Freer/Ho et al./Atsushi in order to provides a means for measuring the relative processing contribution of each subregion to the task.



Referring to claim 3, Obrador discloses acquiring operation information and input information given by said user to said terminal (column 4 line 64 – column 5 line 1) and acquiring audio or video information of said user of said information processing apparatus so as to obtain attention information of said user through at least one of a microphone and a camera connected to said terminal (column 3 lines 44-48 & column 4 lines 1-8). *Obrador does not disclose acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of a user of said terminal; analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging whether or not a degree of concentration of said user to said information of contents is higher than a predetermined degree by using said analyzed rate of change in hemoglobin concentration at a corresponding time and said attention information; and displaying, when said degree of concentration of said user to said information of contents is higher than said predetermined degree, said degree of concentration of the user and said attention information of the user with corresponding time of said information of contents and displaying, when said degree of concentration of said user to said information of contents is not higher than said predetermined degree, information that the user is not in concentration time.* However, Freer teaches displaying, when said degree of concentration of said user to said learning program is higher than said predetermined degree (column 13 lines 1-8 & Figs. 16-29B: above said baseline)) and displaying, when said degree of concentration of said user to said learning program is not higher than said predetermined degree, information that the user is not in concentration time

(column 16 lines 28-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include starting a learning program and displaying the learning contents, as disclosed by Freer, incorporated into Obrador in order to increase the user's focus. *Obrador/Freer does not disclose acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of a user of said terminal; analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging whether or not a degree of concentration of said user to said information of contents is higher than a predetermined degree by using said analyzed rate of change in hemoglobin concentration at a corresponding time and said attention information; said degree of concentration of the user and said attention information of the user with corresponding time of said information of contents.* Ho et al. teaches displaying said degree of concentration of the user and said attention information of the user with corresponding time of said information of contents (column 11 lines 6-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to displaying degree of concentration, as disclosed by Ho et al., incorporated into Obrador/Freer in order to determine the student's degree of concentration in the study materials. *Obrador/Freer/Ho et al. does not teach acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of a user of said terminal; analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging whether or not a degree of concentration of said user to said information of contents is higher than a predetermined*

*degree by using said analyzed rate of change in hemoglobin concentration at a corresponding time and said attention information.* Atsushi teaches acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of a user of said terminal (Drawings 1-2, 6 & the associated text); analyzing a rate of change in hemoglobin concentration from said blood flow rate (for example, paragraph 0006). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include continuously acquiring, measurement information of a blood flow rate in a brain of a user, as disclosed in Atsushi, incorporated into Obrador/Freer/Ho et al. in order to measure localized brain functions. *Obrador/Freer/Ho et al./Atsushi does not teach judging whether or not a degree of concentration of said user to said information of contents is higher than a predetermined degree by using said analyzed rate of change in hemoglobin concentration at a corresponding time and said attention information; and displaying said degree of concentration of the user and said attention information of the user with corresponding time of said information of contents.* Zaltman teaches judging a degree of concentration of said user to said information of contents using said analyzed rate of change in hemoglobin concentration at a corresponding time and said attention information (column 11 lines 41-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include judging a degree of concentration of said user, as disclosed by Zaltman, incorporated into Obrador/Freer/Ho et al./Atsushi in order to provides a means for measuring the relative processing contribution of each subregion to the task.

Referring to claim 7, Obrador, as modified by Freer, Ho et al., Atsushi and Zaltman, teaches giving notice to said user of said terminal in accordance with a result of said step of judging said degree of concentration (column 10 line 66-column 11 line 56 and more specific column 11 lines 34-47 of Ho et al.).

Referring to claims 9 & 10, Obrador, as modified by Freer, Ho et al., Atsushi and Zaltman, teaches further comprising a step of judging whether said input information is a correct answer to an exercise included in said learning contents or not is further provided (column 12 lines 17-30 of Ho et al.); and wherein said step of judging a degree of concentration also uses a result of the step of judging whether said input information is a correct answer (column 10 lines 23-25 & column 12 lines 31 & 32: the examiner views this limitation as whether the concentration degree ranges from low, medium to high of Ho et al.).

Referring to claims 11 & 12, Obrador, as modified by Freer, Ho et al., Atsushi and Zaltman, teaches displaying, on a display, information of said learning contents (monitor 178 of Ho et al.), said rate of correct answers for each exercise included in said learning contents (column 11 lines 6-8 of Ho et al.), said rate of correct answers being obtained from the result of the step of judging whether said input information is a correct answer (column 11 lines 6-8 of Ho et al.).

Referring to claim 13, Obrador discloses a near infrared measuring device (column 3 lines 48-53); a server connected to said terminal through a network (Figs. 1A, 1B & 2), wherein said server includes a recording means for recording contents information (storage 150); wherein said terminal includes: means for starting a learning program

(column 4 lines 61-64), displaying learning contents within a predetermined window on said display means (display device 210), wherein said terminal includes: a display for displaying said contents information received from said server (display device 210); input means for accepting input instructions and operation instructions for said displayed contents information (column 4 line 64-column 5 line 1) and means for acquiring audio or video information of said user so as to obtain user's attention information (column 3 lines 44-48 & column 4 lines 1-8) and wherein said server further includes: a storage for storing inputs from said input means, said measurement information from said near infrared measuring device, said acquired audio or video information as attention information of the user, and said displayed contents information at corresponding times in association with one another (storage 150). *Obrador does not disclose a terminal connected to said near Infrared measuring device for measuring a blood flow rate in a brain of a user of said terminal; and continuously acquiring measurement information from said near infrared measuring device; input means for accepting input instructions and operation instructions for said displayed contents information, wherein the input instructions and operation instructions indicate progress of a user's learning of the contents information; and wherein said server further includes: means for analyzing a rate of change in hemoglobin concentration from said blood flow rate and judging, when an event occurs within the predetermined window, when a facial image of the user is recognized, when said audio information includes predetermined audio information, whether or not a degree of concentration of the user to the contents information is higher than a predetermined degree, based on said*

*measurement information from said near infrared measuring device and said attention information to determine that the user is in concentration time; and means for displaying to said display, when said degree of concentration of said user to said contents information is higher than said predetermined degree, said degree of concentration of the user and said attention information of the user with corresponding time of the contents and means for displaying to said display, when said degree of concentration of said user to said contents information is not higher than said predetermined degree, information that the user is not in concentration time.* However, Freer teaches starting a learning program (Figs. 16-2B & the associated text: starting a low-stimuli educational exercise) and displaying learning contents within a predetermined window on said display means (abstract: low-stimuli education exercises are displayed on a computer monitor) and means for displaying to said display, when said degree of concentration of said user to said contents information is higher than said predetermined degree (Figs. 16-29B: above said baseline) and means for displaying to said display, when said degree of concentration of said user to said contents information is not higher than said predetermined degree, information that the user is not in concentration time (column 16 lines 28-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include starting a learning program and displaying the learning contents, as disclosed by Freer, incorporated into Obrador in order to increase the user's focus. *Obrador/Freer does not teach a terminal connected to said near infrared measuring device for measuring a blood flow rate in a brain of a user of said terminal; and continuously acquiring measurement information from said near infrared measuring*

*device and means for analyzing a rate of change in hemoglobin concentration from said blood flow rate, wherein the input information and the operation information indicate progress of said learning program; judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time and means for displaying to said display, said degree of concentration of the user and said attention information of the user with corresponding time of the contents. However, Ho et al. teaches wherein the input information and the operation information indicate progress of said learning program (column 7 lines 23-26 & column 12 lines 17-30) and displaying said degree of concentration of the user and said attention information of the user with corresponding time of the contents (Figs. 2A, 2B, the associated text, column 8 line 40 – column 11 line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein the input information and the operation information indicate progress of said learning program, as disclosed by Ho et al., incorporated into Obrador/Freer in order to determine the student's understanding level on the materials just presented to the student. Obrador/Freer/Ho et al. does not a terminal connected to said near Infrared measuring device for measuring a blood flow rate in a brain of a user of said terminal (Drawings 1-3, 6 & the associated text); and continuously acquiring measurement information from said near infrared measuring*

*device (Drawings 1-3, 6 & the associated text) and means for analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time.*

However, Atsushi teaches a terminal connected to said near Infrared measuring device for measuring a blood flow rate in a brain of a user of said terminal (Drawings 1-3, 6 & the associated text); and continuously acquiring measurement information from said near infrared measuring device (Drawings 1-3, 6 & the associated text) and means for analyzing a rate of change in hemoglobin concentration from said blood flow rate (paragraph 0006). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include continuously acquiring, measurement information of a blood flow rate in a brain of a user, as disclosed in Atsushi, incorporated into Obrador/Freer/Ho et al. in order to measure localized brain functions. *Obrador/Freer/Ho et al./Atsushi does not teach judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time.* However,



Zaltman teaches judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time (column 11 lines 41-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include judging when an event occurs within the predetermined window, as disclosed by Zaltman, incorporated into Obrador/Freer/Ho et al./Atsushi in order to provide a means for measuring the relative processing contribution of each subregion to the task. Referring to claim 14, Obrador, as modified by Freer, Ho et al., Atsushi and Zaltman, teaches wherein said video information of the user is acquired as facial information or head behavior information of the user, and said camera judges as to whether the user is present in front of the screen or not, the direction of the head of the user, and expression of the user (column 9 lines 13-35 of Ho et al.).

Referring to claims 16 & 17, Obrador, as modified by Freer, Ho et al., Atsushi and Zaltman, teaches further comprising a step of notifying the user if warning output through said display means when it is judged that the user is not in concentration time (column 13 lines 38-40 of Freer).

**3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Obrador/Freer/Ho et al./Atsushi/Zaltman and further in view of Shpiro (U.S. Publication Number 2002/0150869).**

Referring to claim 15, Obrador/Freer/Ho et al./Atsushi/Zaltman discloses a learning condition judging program according to claim 1. *Obrador/Freer/Ho et al./Atsushi/Zaltman does not disclose wherein said audio information of the user is acquired as text information which is extracted from voice of the user through said microphone.* However, Shpiro teaches wherein said audio information of the user is acquired as text information which is extracted from voice of the user through said microphone (paragraph 0040). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a microphone, as disclosed by Shpiro, incorporated into Obrador/Freer/Ho et al./Atsushi/Zaltman in order to display what the user is saying on the screen.

#### **(10) Response to Argument**

A. 35 USC 103(a) rejection of claims 1, 3, 7, 9-14, 16 & 17

i. The Combination of Obrador, Freer, Ho, Atsushi, and Zaltman Fails to Teach or Suggest All the Features of the Claimed Invention

The appellant argues on pages 9-11 that the combination of Obrador, Freer, Ho, Atsushi and Zaltman fails to teach or suggest "judging, when an event occurs within the predetermined window, when a facial image of the user is recognized, or when said audio information includes predetermined audio information, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time" as recited in independent claims 1 and 13. The portion of particular concern to the applicant is,

"judging, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time" where the applicant states that neither the cited text, nor any portion of Zaltman, which the examiner used to teach this limitation, teaches the claimed feature. The examiner cited column 11 lines 41-58 of Zaltman for teaching this limitation. However in Zaltman, when there is increased processing made, a determination can also be made because if any increase is measured then it is determined that the degree of concentration of the user to the learning program is higher than a predetermined degree. Any determination of an increase has to come from a baseline. The examiner has considered the phrase "predetermined degree" in its broadest reasonable interpretation as a baseline. The applicant has not provided any claim language in the originally filed specification as to what a "predetermined degree" entails. The closest passage in the originally filed specification is on page 17 last paragraph where an example was provided which still does not provide a specific definition. Therefore, using the broadest reasonable interpretation of a "predetermined degree" and the rationale above clearly discloses the claimed limitation. Next, on page 11, the appellant asserts by way of further example, the combination of Obrador, Freer, Ho, Atsushi and Zaltman fails to teach or suggest "recording, when said degree of concentration of said user to said learning program is higher than said predetermined degree, said degree of concentration of the user and said attention information of the user with said progress of said learning program in said recording means" as recited in

independent claims 1 and 13. With regard to Freer, the Examiner cites column 13, lines 1-8 to support the assertion that Freer teaches recording, when the degree of concentration of the user to the learning program is higher than the predetermined degree. However, neither the cited text, nor any other portion of Freer, teaches or suggests the claimed feature. The examiner disagrees with the appellant. Freer does not explicitly state the claimed limitation, however, there are several educational exercises and literature in Freer, for example Figs. 16 & 17, the associated text & column 1-20, that discloses that the degree of concentration (focus) is higher than a predetermined degree (baseline). In column 13 lines 1-8, Freer teaches "for each of the exercises the computer measures and saves to the recording device the performance data of individual users including score, duration of play, and average focus and cognitive processing levels; and the computer accumulates and saves to the recording device the cumulative time on-task of individual users". Further in column 13 lines 13-19, Freer teaches "in all implementations, electrical activity of the brain of the user is monitored to obtain at least one signal (which may exist in software) having a value indicative of a level of focus, which is compared to a reference threshold value (which likewise may exist in software) when at least a threshold level of focus is indicated". Lastly, in column 13 lines 46-50, Freer teaches "The bird object sails to the top of the screen just below the clouds if attention is maintained to a high degree. If a proper baseline was obtained, the bird begins just above the mountains. The greater the attention of the user, the higher the bird soars. Therefore, since these educational exercises are recorded in its entirety it encompasses the claimed limitation. Next, on

page 12, the appellant asserts that by way of even further example, the combination of Obrador, Freer, Ho, Atsushi and Zaltman fails to teach or suggest "displaying, when said degree of concentration of said user to said learning program is not higher than said predetermined degree, information that the user is not in concentration time" as recited in independent claims 1 and 13. The Examiner relies upon Freer for teaching this feature, citing column 16, lines 28-32. However, neither the cited text, nor any other portion of Freer teaches or suggests the claimed feature. The examiner disagrees with the appellant once again because Freer teaches in column 16 lines 28-32 that displaying "Focus to Continue" clearly shows the claimed limitation because that phrase is used when there is a detected loss of focus.

ii. The Atsushi Reference Teaches Away From the Claims

Another feature of the present invention, as recited in claim 1, and as similarly recited in claim 3, includes "acquiring audio or video information of said user of said information processing apparatus so as to obtain attention information of said user through at least one of a microphone and a camera connected to said information processing apparatus". In view of this feature, Appellants submit that Atsushi teaches away from the invention as claimed.

Atsushi does not disclose this feature, and the Examiner does not rely upon Atsushi for teaching this feature. Although the Examiner does not rely upon Atsushi for teaching this feature, Appellants submit that it would not be obvious to modify any of the cited references with Atsushi, so as to obtain this feature, because Atsushi teaches

away from using conventional input means, such as a microphone or camera connected to a terminal.

A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). By failing to recognize the portions of Atsushi that teach away from the present invention, the Examiner is improperly combining the Atsushi reference with Obrador, Freer, Ho and Zaltman.

As described in paragraph [0001], Atsushi is directed to the control of a device without the use of an input means, such as a keyboard or a mouse. An object of Atsushi is to control a device by using measured localized brain functions of a user, rather than using conventional input means. Therefore, Atsushi teaches away from using conventional input means, but rather uses electrodes attached to the head of a user (see, e.g., Drawings 1, 6 and 10).

The examiner agrees that it is indeed true that a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. In this case, the prior art as whole, the combination of five references, discloses that the majority of the prior art references teaches the use of convention input means, such as a keyboard or a mouse. For example, in column 4 lines 64-67 of Obrador, column 8 lines 57-62 of Freer, column 7 lines 23-25 of Ho et al., and column 6 lines 39-45 of Zaltman. For the mere fact, that one reference, Atsushi, teaches another form of an input means without the use of a keyboard or a mouse does

not mean that Atsushi teaches away from using conventional input means. In fact, Atsushi does not criticize, discredit or otherwise discourage the solution claimed so this prior art does not teach away from the claimed invention (MPEP 2145).

The Appellant also states that because Atsushi teaches away from using conventional input means, one of ordinary skill in the art, who has considered Atsushi as a whole, would not be motivated to combine the features of Atsushi with the cited references to obtain the present invention.

The examiner disagrees with the appellant's assertion because one of ordinary skill in the art did not combine the use of conventional input means with the teachings of Atsushi. The references were combined in order to teach acquiring audio or video information (see rejection above). Further, Atsushi was used to teach acquiring input information and operation information, which was acquired by an optical brain function measurement device 17 (see rejection above). Therefore, in combination with the previous argument and that the fact that Atsushi's use of continuously acquiring, measurement information of a blood flow rate in a brain of a user was used in order to measure localized brain functions clearly shows that there is sufficient motivation to combine the features of Atsushi with the cited references to obtain the present invention.

iii. The Examiner's Conclusion of Obviousness is Based on  
Improper Hindsight Reasoning

The Examiner alleges that the combined teachings of Obrador, Freer, Ho, Atsushi and Zaltman teach the features of the present invention, and concludes that it

would have been obvious of one in ordinary skill in the art to combine Obrador, Freer, Ho, Atsushi and Zaltman. Appellants do not agree. More specifically, Appellants submit that the Examiner has arbitrarily combined the cited references, while relying upon improper hindsight reasoning.

In response to appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

a. The Examiner Has Not Provided Sufficient Motivation for Combining Freer with Obrador

The Appellant asserts that the Examiner has not provided any motivation for either "recording, when said degree of concentration of said user to said learning program is higher than said predetermined degree" or "displaying, when said degree of concentration of said user to said learning program is not higher than said predetermined degree, information that the user is not in concentration time". The examiner disagrees with the appellant's assertion because the rejection above clearly shows that the examiner has combined "displaying, when said degree of concentration of said user to said learning program is not higher than said predetermined degree,



information that the user is not in concentration time" in order to increase the user's focus.

b. The Examiner Has Not Provided Sufficient Motivation for Combining Ho with Obrador and Freer

The Appellant asserts that in addition to the feature of "wherein the input information and the operation information indicate progress of said learning program", the Examiner also relies upon Ho for teaching "recording said degree of concentration of the user and said attention information of the user with said progress of said learning program in said recording means."

In absence of motivation to combine each of the features relied upon in each of Obrador, Freer and Ho, it appears that the Examiner has selected these references with the assistance of hindsight, thereby improperly including knowledge gleaned only from the disclosure of the present invention. (See, e.g., *In re McLaughlin* 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971) (holding that reconstruction based on hindsight reasoning is improper when it includes knowledge gleaned only from applicant's disclosure). Therefore, the Examiner's rejection lacks sufficient motivation for combining Obrador, Freer and Ho, and the Examiner has failed to show a proper prima facie case of obviousness. The examiner once again disagrees with the applicant's assertion because "wherein the input information and the operation information indicate progress of said learning program" was combined with Obrador and Freer in order to determine the student's understanding level on the materials just presented to the student. "Recording said degree of concentration of the user and said attention information of the

user with said progress of said learning program in said recording means" is combined with Obrador and Freer in order to determine whether the student's concentration levels have increase or decreased. Basically in order to have a point of reference, a baseline.

c. The Examiner Has Not Provided Sufficient Motivation for Combining Atsushi with Obrador, Freer and Ho

The appellant asserts that to support the assertion that a skilled artisan would be motivated to combine the teachings of Obrador, Freer, Ho and Atsushi, the Examiner asserts "It would have been obvious to one of ordinary skill in the art at the time the invention was made to include continuously acquiring, measurement information of blood flow rate in a brain of a user, as disclosed in Atsushi, incorporated into Obrador/Freer/Ho et al. in order to measure localized brain functions" (see, e.g., page 6 of the Office Action).

However, as previously discussed, the Atsushi references teaches away from the claims. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). The purpose of Atsushi is to provide a means of obtaining information through a non-conventional manner (i.e., via electrodes), and to modify the cited references with the features of Atsushi, in the manner asserted by the Examiner, to obtain information through conventional means, would be entirely against the teachings of Atsushi as a whole.

By failing to recognize the portions of Atsushi that teach away from the present invention, the Examiner is improperly combining the Atsushi reference with Obrador, Freer, Ho and Zaltman. Therefore, there is no motivation to modify the cited references with Atsushi in the manner suggested by the Examiner. The examiner again disagrees with the appellant's assertion. The previous arguments in regards to the Atsushi reference teaching away applies here. For sake of brevity the examiner has not repeated the arguments. However, in regards to lack of motivation Atsushi was used to teach continuously acquiring, measurement information of blood flow rate in a brain of a user in order to measure localized brain functions.

d. The Examiner Has Not Provided Sufficient Motivation for Combining Zaltman with Obrador, Freer, Ho and Atsushi

The appellant asserts that to support the assertion that a skilled artisan would be motivated to combine the teachings of Obrador, Freer, Ho, Atsushi and Zaltman the Examiner asserts "It would have been obvious to one of ordinary skill in the art at the time the invention was made to include judging when an event occurs within the predetermined window, as disclosed by Zaltman, incorporated into Obrador/Freer/Ho et al./Atsushi in order to provide[] a means for measuring the relative processing contribution of each subregion to the task" (see, e.g., page 6 of the Office Action).

However, the Examiner does not rely upon Zaltman for teaching "judging when an event occurs within the predetermined window". As indicated on page 3 of the Office Action, the Examiner relies upon Obrador for teaching this feature. The feature upon which the Examiner relies on Zaltman for teaching is "judging, whether or not a degree

of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time", and the Examiner has not provided any motivation for teaching this feature (see, e.g., page 6 of Office Action).

In absence of motivation to combine each of the features relied upon in each of Obrador, Freer, Ho, Atsushi and Zaltman, it appears that the Examiner has selected these references with the assistance of hindsight, thereby improperly including knowledge gleaned only from the disclosure of the present invention. (See, e.g., *In re McLaughlin* 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971) (holding that reconstruction based on hindsight reasoning is improper when it includes knowledge gleaned only from applicant's disclosure). Therefore, the Examiner's rejection lacks sufficient motivation for combining Obrador, Freer, Ho, Atsushi and Zaltman, and the Examiner has failed to show a proper *prima facie* case of obviousness. The examiner disagrees with the appellant assertion because judging, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time" of Zaltman was combined with Obrador, Freer, Ho and Atsushi in order to determine whether the student's concentration levels have increased from a point of reference, a baseline.

Claim 15 is also rejected for the same reasons and rationale as related to independent claim 1.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/K. F./

Examiner, Art Unit 3715

Conferees:

/Kathleen Mosser/

Primary Examiner, Art Unit 3715

/XUAN M. THAI/

Supervisory Patent Examiner, Art Unit 3715